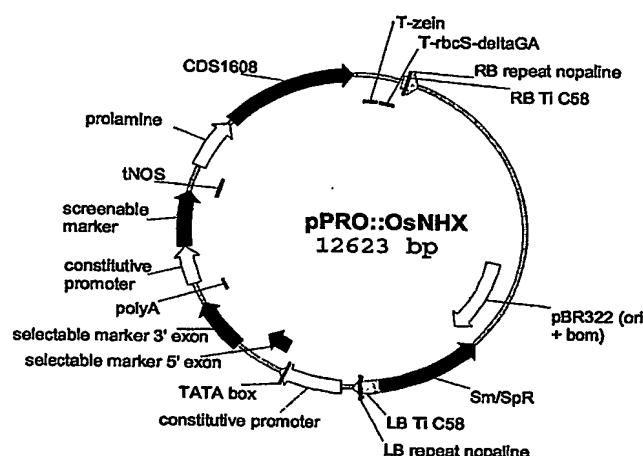
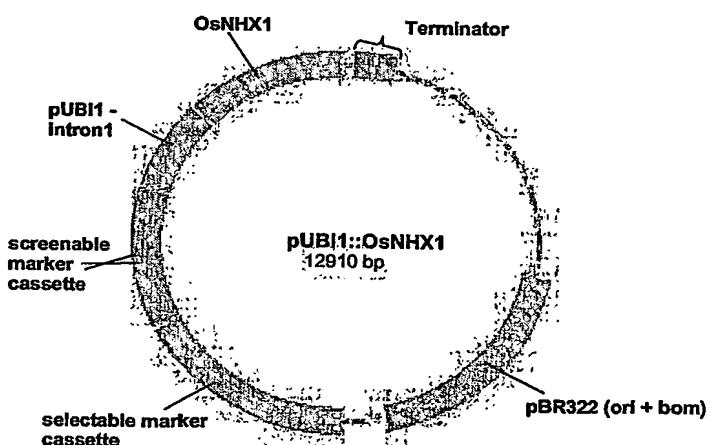


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**FIGURE 1****FIGURE 2**

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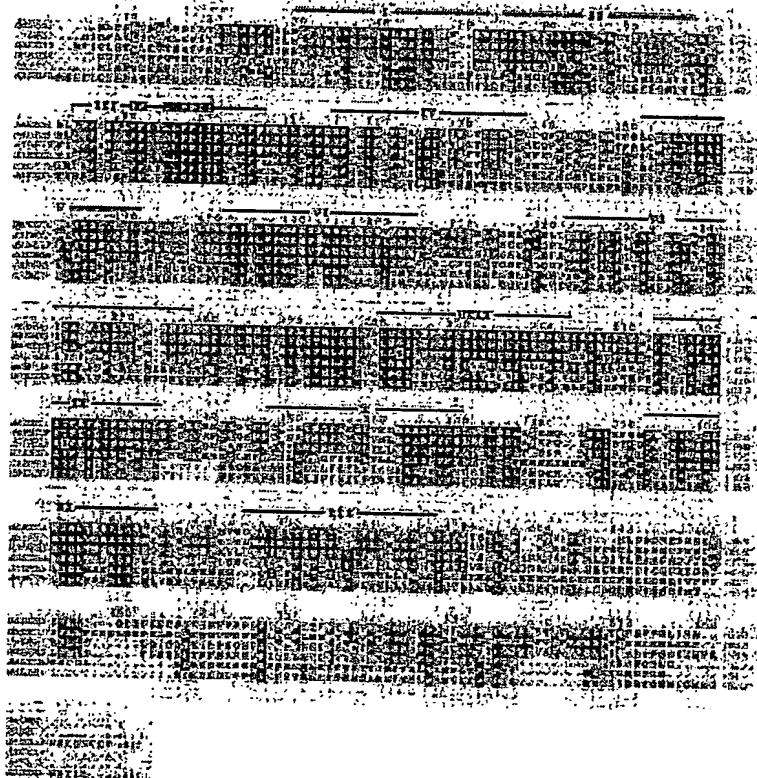


FIGURE 3

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SEQ ID NO 1: coding sequence for *Oryza sativa* NHX1 protein

GAGAAGAGAGTTGTAGCGAGCTCGCGAATGCGAAGCCAACCGAGAGAGGTCTCGA
 TACCAAATCCCGATTCTCAACCTGAATCCCCCCCCACGTTCTCGTTCAATCTGTT
 CGTCTGCGAATCGAATTCTTGTCTTCTCTAATTTACCGGAATTGTCGAATT
 AGGCATTCAACCAACGAGCAAGGGGAGTGAGTTGGCTTAAAGCTCCGCATCTTGC
 GGCAGAAATCTCGCTCTTCTCTGCGGTGGTGGCCGGAGAAGTCGCCGCCGGTGG
 CATGGGATGGAGGTGGCGGGCGGCTGGGGCTGTACACGACTCCGACTACG
 CGTCGGTGGTGCATCAACCTGTCGCGCTGCTCGGCCATCGTCCTCGC
 CACCTCCGAGGAGAACGCTGGTCAATGAGTCATCACCGCGCTCATCATCGGCT
 CTGCAACCGCGTGGTGAATCTGCTGATGACCAAAGGGAGAGCTGCACATTATCGTCT
 TCAGTGAGGATCTCTTCTCATCACCTCCCTCCGATCATCTCAATGCAGGTTT
 CAGGTAAAGAAAAGCAATTCTCGGAAATTATGACGATCACATTATTGGAGCCGT
 CGGGACAAATGATACTCTTTTACAATATCTATTGCTGCCATTGCAATTCAAGCAA
 TGAACATTGGAACGCTGGATGAGGAGATTCTTGCACATTGGAGCCATCTTCTGCG
 ACAGATTCTGTCACATTGCAAGGCTCTAACCTAGGATGAGACACCCCTTTTGTACAG
 TCTGGTATTCTGGTGAAGGTGTGAACGATGCTACATCAATTGCTTTCAACGCCAC
 TACAGAACTTTGATCTTGTCCACATAGATGCCCTGCTGTTCTGAAATTCTGGGGAAC
 TTCTTTTATTATTGCTGCCAGCACCTCTGGAGTATTGCTGGATTGCTCAGTGC
 ATACATAATCAAGAAGCTATACTTGGAAAGCATTCTACTGACCGTGAGGTTGCCCTA
 TGATGCTCATGGCTTACCTTCAATATGCTGGCTGAGTTCTAGATTGACGGCATT
 CTCACCGTATTCTCTGCTGATTGTAATGTCACATTACATTGGCATAACGTACAGA
 GAGTTCAAGAGTTACAACAAAGCACGCAATTGCAACTCTGCTCTCATGCTGAGACTT
 TTCTCTCTGTATGTTGGGATGGATGCAATTGATAATTGAAAAATTGGGAGTTGCCAGT
 GACAGACCTGGCAAATCCATTGCAAGCTCAATTGGTAGGATTGGCTGATTGG
 AAGAGCTGCTTTGTATTCCGCTGTCGTTGCTGAACTAACAAAGGAAGGCCACCGA
 ATGAAAAAAATAACCTGGAGACAGCAAGTTGTAATATGGTGGCTGGCTGATGAGAGGA
 GCTGCTGATTGCTCTGCTTACAATAAGTTACAAGATCTGGCATACTCAGCTGCA
 CGGCAATGCAATAATGATCACCAAGCACCATCACTGCTCTTTAGCACTATGGTAT
 TTGGGATGATGACAAGGCAATTGATCAGGCTGCTGCAACGGCATCCTGTC
 ACCTCTGAGCCTCATCACCAAAGTCCCCTGCAATTCTCTCTGACAAGCATGCAAGG
 TTCTGACCTCGAGAGTACAACCAACATTGAGGCTTCCAGCCTCCGATGCTCTCA
 CCAAGCCGACCCAACTCTGCAACTACTGCGCAAGTTGCAAGGCCCTGATGCGA
 CCGATGTTGGCGGGCGGGTCTGCTGCCCCCTGATCACCAACCGAGCAGAG
 CCATGGAGGAAGATGAAACAGTGCAGGAAATGAGAATGGAATGGTTGAGGAGAATA
 CATGTAAGGATGCAAGCAGGAAAGAGAGAAGGCAAGGTTGGGTTGAGGTTGGCTG
 CTGCTAATGAGTTGTGATAGTGCTATATTCTCAGAACCTCAGATGCTGCTCACC
 AGGCCTAAGAGCCAGGAGGACCTTCTGATAATGGTTGGGATGATTGGTTGTTCTGTC
 AGGATGAAACCTAGTGAATGACACAGGGTGAATGCTGCGACAACCTGTAATTTGTA
 GATTAACAGCCCCATTGTAACCTGCTACCATCTTAACTGGGGTGTCTTCTG
 TTGCCACCCCTGCATGAAAATGAAATTCTCCGCCAAAATAGATTGTTGATATAATAAT
 TTGCTTGGTTG

FIGURE 4

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SEQ ID NO 2: *Oryza sativa* Nhxl protein

MGMEVAARILGALYTTSDYASVVSINLFVALLCACIVLGHLEENRWVNESITALIIGL
 CTGVVILLMTKGKSSHLFVFSDELFFIYLPPPIIFNAGFQVKKQFFRNFMITLFGAV
 GTMISFFTISIAAIIFSRMNIGTLDVGDPLAIGAIFSATDSVCTLQVLNQDETPFLYS
 LVFGEGVVNDATSIVLFNALQNFDLVHIDAAVVLKFLGNFFYLFLSSTFLGVFAGLLSA
 YIIKKLYIGRHSTDREVALMMLMAYLSSYMLAELLDLSGILTVFFCGIVMSHYTWHNVT
 SSRVTTKHAFATLSFIAETFLFLYVGMDALDIEKWEFASDRPGKSIGISSLGGGLVIG
 RAAVFVPLSFLSNLTKKAPNEKITWRRQQVVIWWAGLMRGAVSIALAYNKFTRSGHTQH
 GNAIMITSTITVVLFSTMVFGMTKPLIRLIPASGHPVTSEPPSPKSLHSPLLTSMQG
 SDLESTTNIVRPSSLRMLLTKPTHTVHYYWRKFDDALRPMFGRGFVPFSPGSPTEQS
 HGGR

SEQ ID NO 3: *Arabidopsis thaliana* Nhxl

ATGTTGGATTCTCTAGTGTGAAACTGCCTTCGTTATCGACATCTGATCACGCTTCTGT
 GGTTGCCCTGAATCTCTTGTGCACTCTTGTGCTTGATTGTTCTGGTCATCTT
 TGGAGAGAATAGATGGATGAACGAATCCATCACCGCTTGTGATTGGGCTAGGCACT
 GGTGTTACCATTTGTGATTAGTAAAGAAAAAGCTGCATCTCTCGCTTTAGTGA
 AGATCTTCTCATATATCTTGTGCAACCCATTATATTCAATGCAGGGTTCAAGTAA
 AAAAGAAGCAGTTTCCGCAATTTCGTGACTATTATGCTTTGGTCTCTGGGACT
 ATTATTCTTGACAACTCATATCTCTAGGTGAAACAGCTTTAAGAAGTTGGGACAT
 TGGAACCTTGACTTGGGTGATTATCTTGCTATTGGTCCCATATTGCTGCAACAGATT
 CAGTGTGACTGCAAGTTCTGAATCAAGACGAGACACCTTGTTACAGCTTGTA
 TTGGAGAGGGTGTGGAATGAGCAACGTCAGTTGCTGCTTCACCGGATTCAAGAG
 CTTTGATCTCACTCCTAACCGAACGAAGCTGCTTTCATCTTGTGAAACTCTTGT
 ATTTGTTCTCTTAAAGTACCTTGCTTGCTGCAACCGGCTGTGATAAGTGCATGTT
 ATCAAGAAGCTATACTTGGAAAGGCACTCAACTGACCGAGAGTTGCCCTATGATGTT
 TATGGCGTATCTCTTATATGCTTGCTGAGCTTTCGACTTGAGCGGTATCTCACTG
 TGTTTCTGTGTTATGCTGATGCCATTACATGCCAACATGTAACCGAGAGCTCA
 AGAATAACAAACACATACCTTGCACACTTGTCAATTCTGCGGAGACATTATTT
 CTTGATGTTGGAAATGGATGCCCTGGACATTGACAACTGGAGATCCGTAGTGACACAC
 CGGGAACATCGATGCCAGTGAGCTAACCTTAATGGGTCTGGTCATGGTGGAGAGCA
 GCGTTCGTCTTCCGTTATGTTCTATCTAACCTGACAGCAAGAACGAGAA
 AATCAACTTAACTGCAGGTTGTTGATTTGGCTGGTCATGAGAGGTGCTGTT
 CTATGGCTCTTGCAACACAAGTTACAAGGGCCGGCAACAGATGACCGGGGAAT
 GCAATCATGATCACGAGTACGATAACTGCTGTCTTTAGCAGCTGGTGTGTTGGTAT
 GCTGACCAAAACCCACTCATAAGCTACCTATTACCGCACCAGAACGCCACCGAGCATG
 TATCTGATGACAACACCCAAAATCCATACATATCCCTTGTGGACAGTACCTGGCTTCTGAC
 ATTGAGCCCTCAGGGAAACCCACAACTGCTCGGCTGACAGTACCTGGCTTCTGAC
 ACGGCCCACTCGAACCGTGCATTACTACTGGAGACAATTGATGACTCCTCATGCGAC
 CGTCTTGGAGGTGCTGGCTTGTACCCCTTGTCCAGGTTCTCAACTGAGAGAAC
 CCTCCTGATCTTAGTAAGGCT

FIGURE 4 (continued)

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SEQ ID NO 4: *Arabidopsis thaliana* Nhx1 protein

MLDSLVSKLPSLSTS DHASVVALNL FVALLCACIVLGHILLEENRWMNESITALLIGLT
 GVTILLISKGKSSHLLVFS EDLFFTYLLPPIIFNAGFQVKKKQFFRNFTIMLFGAVGT
 IISCTIISLGVTQFFKKLDIGTFDLGDYLAIGAIFAATDSVCTLQVNQDETPLLVLV
 FGEGVVNDATSVVFNAIQSFDLTHLNHEAFHLLGNFLYLFLLSTLGAATGLISAYV
 IKKLYFGRHSTDREVALMMILMAYLSYMLAELFDLSCILITVFFCGIVMSHTWHNVTESS
 RITTKHTFATLSFLAETFIFLYVGM DALDIDKWRVS DTPGTSI A VSSILMGLVMVGR
 AFVPLFLSFLSNLAKNQSEKINENMQVVIWWSGLMRGAVS M ALAYNKFTRA GH TDV RGN
 AIMITSTITVCLFESTVVFGMLTKPLISYLLPHQNATTSMLSDDNTPKS IHIPLLDQDSF
 IEP SGHNVNPRD SIRGFLTRPTRTVHYYWRQFDDSFMRPVFGGRGFVFPVPGSPTERN
 PPDL SKA

SEQ ID NO 5: *Medicago sativa* Na⁺/H⁺ antiporter

ACGGGGGAATCCAACCCATTCTATAACAAACA ACTACCGGAGATATATAATATCTCT
 CCTCTAAATAGAAATTCGACAGAGTGACTCAACAAAGATTATTAGGAGTGATAATCTTCC
 ACGGCAGCTAAAAACAAACACATCCGATT CATCACCGC GTTGCAGAGAATACT
 TGTGTTGATGAGATCAGAAGGTTCTTAAATGACAGCTCAGAAACATAAAATCTGGG
 ATTCAATTACTACTGGACTTTGAAATTGGAAATTCA CGCAATAATCTCAATTGTC
 TTAATCTGCTTTGAAATTCTGGAGGGTGACGACATCATGGT ATTGAAATGTCTT
 CTATTGTTCAAAACTATCAATGTTATCCACTTCCGATCATGCTTCTGTTGTTCTATG
 AACTTGTGTTGTCGCACTTCTGTGCTTGATTTGCTTGGTCA TCTCGAGGAGAA
 TCGATGGATGAATGAATCCATCACTGCCCTTTGATTGGTATTTCGACTGGTGTAGTGA
 TTTGCTGTTAGTGGGAAAGTTCGCATATTCTGTTTCAGTGAAGATCTTC
 TTATATACCTCTGCCCTTATTAATTCATGCCGGTTCAAGTAAAGAAAAAGCA
 GTTTTTGTCAACTCATGACTATCACATCATTGGAGCTATTGGCACATTAAATATCTT
 GTGTCATTATAACCACGGGTGCACTTTGCTTTAAGAGGATGGATATTGGGCCACTG
 GAAATCGGCATTATCTAGCTATTGGAGCAATTGGCCCAACAGACTCTTTGCA
 ATTGCAAGGTCTAAATCAGGATGAGAACCTTATTGATAGTCTTGATTTGGGAAG
 GTGTTGTAATGATGCTACCTCAGTGGCTTTCAATCAGCTTAAAGCTTGTCTT
 AACCAACTGAACCCCTCAATTGCA TTGCAATTCTGGCAACTTCCCTGTTTGTCTT
 AGCAAGCACACTCCCTGGCGTTGACAGGCTCTGCTCATGCCCTATGTTAATAAAAGC
 TGTACATTGGCGCACTCCACAGATCGTGGGTTGCTCTTATGATGCTAATGGCATA
 CTCTCTTATATGCTGCTAGTAAACCTATCTGAGTGGCATTCTACCGTATTCTTG
 TGGTATTGTTATGCTCATTATGACTTGGCATTAATGTCAGGAGCTGCTCAAGAATCA
 CCAAGCATTCTTGTACCTTGTCTTGTGCTGAGATTTTATCTCCCTTATGTT
 GGTATGGATGCCCTGGACATTGAAAATGGAGTTGTTAGTGTAGTCTGGAAACATC
 TATAGCTGCAAGTTCACTATTGGGCTCTAATACCTCTGGAAAGAGCAGCCTGGTT
 TTCCCTTATCTCTTATCCAACCTGACTAAAAAATCACACATCGAAGAATTCCCTC
 AGACAGCAAGTTATCTTGGGCTGGCTTATGAGAGCTGCTGTTCAATGGCACT
 TGC GTATAATCAGTCACCATGTCGGGCATACTCAACTACGTAGCAATGCAATCATGA
 TAACCAGCACCACACTGTTGTCCTTTGAGCACAGTGGGTTTGGCTGACTAAG
 CCACTCATAAGGCTCTACTACCTCATCCTAAATCACAGCAGCATGACAACCACAGA
 ATCGACTACTCCAAAATCATTCACTTGTCCCACCTCTAGGAGATTCCCGAGATTCTGAAG
 CTGATCTGAAGGCCATGAAATTCA CGGACCGAACAGCCTCGTGCCTTACTATCAACT

FIGURE 4 (continued)

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CCAACTCACACTGTTCATCGATTATGGCGAAAGTTGATGATTCAATTCAATGCGCTCTGT
 TTTGGTGGCAGAGGTTTGTCTGTAGAACCTGGCTACCAAGTGAAACGCAATGGTA
 ATCAATGGGGTTGAGAAAAGAACCATGAAATGTGTAATATGTGTTGTATACTACGTAT
 GATTGTTGAAAAGTCATGCAACGTGTGTATAATGTTATTCGATAAGAACCTAGTAG
 TGAAATTTCCTTAAAAAAACCTCGTAGTGAAATTGTTGAGCTGTTGAGTAGC
 TAGTATGAGATGGCTGCCATCTCTGTCTATTATGTAACATACAATTTTTAGAT
 TCTCTGAGCCATTACATGTTGTTGATGTGTCAAAAAAAAAAAAAA

SEQ ID NO 6: *Medicago sativa* Na+/H⁺ antiporter protein

MALEMSSIVSKLMSLSDHASVVSMLFVALLCACIVLGHILLEENRWNNESITALLIG
 ICGVVLFLSGGKSSHILVFSDELFFIVLPPPIIFNAGFQVKKQFFVNFMTITSFGA
 IGTLSIVIITTGATFAFKRMDIGPLEIGDYLAIGAIFAATDSVCTLQVLNQDETPPLY
 SLVFGEGVVNDATSVVLFNAIQSFIDLNLQNLPSIALHFLGNFLYLFVASTLLGVVTGLS
 AYVIKKLYIGRHSTDREVALMMILMAYLSYMLAELTYLSGILTVFFCGIVMSHYTWHNVT
 QSSRITTKHSFATLSFVAEIFIFLYVGMALDIEEKWKFVSDSPGTSIAASSVLLGLILL
 GRAAFVFPLSFLSNLTKKSQHQKISFRQQVIIWWAGLMRGAWSMALAYNQFTMSGHTQL
 RSNAIMITSTITVVLFSTVVFGGLLTKEPLIRILLPHPKITSMTTESTTPKSFIVPLLG
 DSRDSEADLEGEHIEIHRPNSLRALLSTPTHTVHRLWRKFDSFMRPVFGGRGFVPVEPGS
 PSERNGNQWG

SEQ ID NO 7: *Suaeda maritima* subsp. *salsa* Na+/H⁺ antiporter

TTTCACAAAAGATTATTGGACTTCAGAAGTTGATTTGTGGAGCTAGAAAGGGTTTCAC
 ATACATGGACATTAACTGAAATATATATATTTGTTGTTGGGTCTTGGATTCCG
 GTGCCAAAGAAATGGTCAACAAATGTTGTCACAGTTGAGCTCTTTTTGCAAGTAAG
 ATGGACATGGTTTACGTCATGATCATGCTTCCGGTTGATGAATTGTTGTCGC
 ACTGTTACGTTGGCTGCAATTGTAATTGGTCATCTCTCGAAAGAGAATCGCTGGATGAATG
 AATCATTACAGCTTGCTAATAGTTTATCTACTGGGATTATAATCCTGCTAATTAGT
 GGAGGAAAGACTTCGCAATTGTTGCTTCAGTGAAGATCTTTCTTTATACCTCCT
 TCCACCGATTATTCATGCGGGGTTTCAGGGTGAAGAAAGCAATTTCGGCAACT
 TCATTACTATTATTTGTTGGACCGGTTGGTACATTGGTATCATTATAATCATATCT
 CTTGGTTCAAGCTPATATTTCAAAAGATGGATATTGGTTCGCTGGAGTTAGGGGATCT
 TCTTGCATTGGTCAATATTCCGCTGCAACTGATTCACTTGCACATTGCAAGTGCTTA
 ATCAAGATGAGACTCCACTTCTTATAGCTCCGTTGGTGAAGGGTCTCGTCAATGAT
 GCTACATCAGTGTGTTGTTCAATGCAATTCAAACATTGACCTCACGCACATTGACCA
 CAGAATTGCCCTCCAATTGGTGGCAACTTTCTATATTATTTTGGCAAGCACTCTGC
 TTGGAGCAGTGACTGGCTTGTCAAGCGTTATGTCATCAAAAAGTGTACTTTGGAAAG
 CATTCAACTGACCGTGAGGTAGCCTTAATGATGCTTATGGCTTATCTATCGTACATGCT
 TGCTGAACCTTCTTATCTGAGCGGAATTCTTACAGTATTCTCTGTTGGGATTGTCATGT
 CCCATTATACATGGCACAATGTCACGGAGAGCTCCAGAGTAACCCACCAAGCATGCTTT
 GCAACACTCTTTGTAGCTGAGATCTTCATCTTCTATATGTTGGTATGGATGCACT
 GGATATTGAGAAGTGGAGATTGAGCTGAGCGATAGTCCTGGACATCTGTTGCTGTGAGTT
 CCATACTGCTTGGCTTCACATGGTTGGCGAGCTGCTTTGTTTCCCTTCGCTTT

FIGURE 4 (continued)

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TTAATGAACTTGTCCAAGAAATCAAATAGTGAGAAGGTACCTTCACAGCAGATACT
 CATTGGTGGCTGGTCTCATGAAAAGTGCCTCTCCGTGGCACTTGCTTATAATCAGT
 TTCAAGGTAGGACACACACAGCTGAGGGAAATGCAATCATGATTACAAGCACCATA
 ACCGGTGTCTTTCAGTACGATGGTATTGGTTGCTGACAAGCCTTATAACTCTT
 TATGTTGCCTCAACCGAAACATTCACTAGTGCAGCACCGTGTAGATTGGGAGTC
 CAAAGTCATTCTCCTTGCCTCTTGAAGATAGACAAGATTCTGAAGCTGATTTGGGC
 AACGATGATGAAGAACGCCAACCCCCGTGGACTATAGCTGACACTAGTCTTCGTAT
 GCTACTAAATGCACCAACTCACACTGTCCATCATTATGGCGCAGATTGATGATTATT
 TCATGCGCCCTGATTGGTGGCGGGGTTTGTACCTTTGTCCCAGGTTCAACCCACC
 GAACAGAGCATCACTAAATTGTCACAGAGAACATAAGTTAGCGATAATTGAGGAGTT
 GGTGCAGAAACTAATAACTTACAGCCCTACAGGCAATCTAACAGACAAAAAATGCCCT
 TACCAAGAACGAAACAGCCCGTGTGGTCTCGTGGGCTTGATGTTAAGACTGTGCTG
 TACTCTGTAAATAGAGACTAAGTTACAGAAACCCGATTTAACATATCTGTAATT
 TTTACAGCATGGATATTGATGCAATTAAATCTGGTGTAGCTAGAATACTCTAGCA
 TGTTTGTAGTTCACTTACCATTTAGTTTCTCCTACATAACCTCAATAAGCTGT
 TTAGTGTGCTTACTGCTTACTTTAGAGCAAACGTCAACTGTGAAATTGCTTACGTCA
 CGGCACCTGTGTAAATTATCATTATAATGATGGAGCATGATCATTGCAATCAAAT
 TTACAATACTGTGATTAAAAA

SEQ ID NO 8: *Suaeda maritima* subsp. *salsa* Na^+/H^+ antiporter protein

MLSQLSSFFASKMDMVSTSDHASVVSMLFVALLRGCIVIGHLEENRWMNESITALLI
 GLSTGIIILLISGGKSSHLIIVFSEDLFFIYLPIIFNAGFQVKKQFRNPFITIILFG
 AVGTIVSFIIISLGSIAIFQKMDIGSLELGDLIAIGAIFAAATDSVCTLQVLNQDETPLL
 YSLVFGGVVNDATSVVLFNAIQNFQFDLTHIDHRIAQFQGNFLYLFFASTLIGAVTGLL
 SAYVIKKLYFGRHSTDREVALMMLMAYLSYMLAELFYLSGLTVFFCGIVMSHYTWHNV
 TESSRVTTKHAFATLSFVAEIFIIFLYVGMDALDIEKWRFVSDSPGTSAVSSILLGLHM
 VGRAAFVFPFAFLMNLSKKSNSEKVTNFQIVIWWAGLMKSAVVALAYNQFSRSGHTQ
 LRGNAIMITSTITVLFSTMVFGLLTKPLILFMLPQPKFTSASTVSDLGSPKSFSLPL
 LEDRQDSEADLGNDDEEAYPRGTIARPTSLRMLLNAPTHVTWYWRRFDDYFMRPVFGG
 RGFPVPGSPTEQSITNFVTENIS

SEQ ID NO 9: *Zea mays* Na^+/H^+ antiporter NHX1

ATGGGGCTTGGAGTAGTGGCGGGAGCTAGTCCGCCCTGGCGCTCTTCCACCTCAGA
 TCACGCCCTCCGTGGTTAGCATCAATCTCTTGTGCCCTGCTCTGCCCTGATTCGTC
 TGGGCCATCTTCTGAAGAGAAATAGGTGGTGAACGAGTCCACCGCGCTGATTCGTC
 CTCGGCACCGGTACCGTCATCCCTCATGATTAGCCGGGGGTGGTTATTCACTCTAGT
 CTTCTCCGAGGACCTCTTCTCTATTTGCCCCGATCATTTCATGCAAGGT
 TCCAAGTGAAGAAGAACAGTTCTTCGAAACTTCAATTACTATTACACTGTTGGTGCA
 GTTGGCACCTTGATCTCTTACTGTAATATCCCTGGCGCTCTAGGACTAATATCAAG
 GCTTAATATCGGCCACTTGAACTGGGAGACTATCTGCACTTGGGCAATATTCTCGG
 CCACAGACTCGGTTGACCTTGCAAGGTGTTAAGCCAAGATGAGACACCATTCTGTAC

FIGURE 4 (continued)

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AGTCCTGTATCGGTGAAGGCGTGGTCAACGATGCCACTTCCGTAGTGGTGTCAATGC
 ACTCCAAAACCTTGATATAACTCACATCGATGCCAGGTTGTCTTCCATCTATTAGAA
 ACTTCTTCTACCTCTTCCCTATCAACTGTGTGGAGTGGCCACAGGACTTATCTCA
 GCGTAGTGTAAAGCTATACCTTGACGGCACTCTACTGACAGGGAGGTGGCTCT
 TATGATGCTTATGGCGTATCTCCTACATGTGGCGGAACCTCTCGGCTGAGCGGGA
 TCTTGACGGTATTCTTGGGTGATTGTTATGCCACTATACATGGCACACCGTACA
 GAGTCCAGCAGAACATCAGACTAACGCTGCGTTGCCACGCTCAGCTCTAGCCGAAAC
 CTTCCCTTTCTGTACGTGGTATGGATGCTCGACATTGACAAGTGGAGGTGGCTGA
 GTGACACCCAGGTAAAGTCTTGGCCATAACGCTGATTGTATGGACTCGTGATGGTT
 GGCGGGGCTGCCCTCGTATTCCCTCTCCTCCAACTTGTAGCGAAAAAAACCGA
 GCACGAAAAATCAGCTGGAGCAGCAGGTTGTCATTGGTGGGCGGGTCTCATGCGAG
 GCGCCGTTTGTGATGGCCCTAGCGTACAAGAAGTTTACCCCGCCAGGGCATACTCAGGTC
 CGCGGAAACCGCAGTCATGATTACAGCACGAAATTGTCGTTGTTGACAATGGT
 GTTCGGCTGTCACGAAGCCCTAAATTAACTTGCTAATACCGCACCGTAACGCCACAT
 CGATGTTGAGCGATGACTCAAGCCCAAAGTCCTGATAGCCCTCTGCTAACCTCTCAA
 CTCGGTAGCGACTTAGGAGCCGACCAACATCCCGCCGGAGCTCCATAAGAGGGGA
 GTTCCCTACCATGACTAGGACCGTGACCGTAACTGGCGCAAGTTGACCGACGCCCTCA
 TGAGGCCATGTCGGAGGCCGGTTCTGTACCTTGTGCCAGGCAGCCGACCGAG
 CGTAATCCGCCGGATCTTCAAGGCTAA

SEQ ID NO 10: Zea mays Na⁺/H⁺ antiporter NHX1 protein

MGLGVVAELVRLGVLSSTDHASVVSINLFVALLCACIVLGLLLEENRWVNNESTALIVG
 LGTGTIVLMSRRGVVIVHVLVSEDLFFFYLLPPIIFNAGFQVKKQFFRNFITITLFGA
 VGTLSFTVISLGALGLISRLNITGALELGDYIALGAIFSAATSVCTLQVLSQDETPFLY
 SLVFGGVVNDATSVNLFNQFDITHDAEVVFHLLGMNFYLFLLSTVLGVATGLIS
 ALVIKKLYFGRHSTDREVALMMLMAYLSYMLAEFLFALSGILTIVFFGICIVMSHYTWNVNT
 ESSRITTKHAFATLFLAETFLFLYVGMDALDIDKWRVSVDTPGKSLAISILMGLVMV
 GRAAFVFPFLSFLSNLAKKTEHEKISWKQOVIWAGLMRGAWSMALAYKKFTRAGHTQV
 RGNAMITSTIIVVLFSTMVFGLLTKEPLINLIPHRNATSMISDDSSPKSLHSPLLTSQ
 LGSDLEPTNIPRPSIRGEFLTRTVHRYWRKFDDAFMRPMFGGRRGFVFPVPGSPTE
 RNPPDLSKA

SEQ ID NO 11: Zea mays Na⁺/H⁺ antiporter NHX2

ATGGGCCTTGGTGTGATGCGGAGACGGTCAGGCTGGAGTCCTTAGCTGACCTCGGA
 TCATGCCAGCGTTGTCAGTAACAACTTCTCTGAGCACTCTTGCCTGTTATCGTCC
 TCGGGCATCTCTTGGAGGAGAACCGAATGGTTAATGAGTCATTACAGCACTGCTGGTG
 GGGCTGGGACTGGGACCGTGATTCTGATGATTAGTCGGGCGTGAGTATTACAGTTCT
 CGTCTTTCAGAGGACCTGTTCTTATCTATCTGTTACCTCCGATTATCTCAATGCCG
 GGTTCAAGTAAAGAAAAGCAATTCTCCGCAACTTTATAACGATTATTTGTTGGT
 GCTATGGGACTCTGATTTCTTGTAAATAATCTCTTGTGCTATGGGTTGTTCAA
 GAAACTTGATGTTGGTCCACTCGAGCTGGGACTATCTTGTCAATTGGTGTATTCT
 CGGCAACAGATTCGTGACCTTACAGGTGCTAACCGAGATGAAACACCCCTACTC

FIGURE 4 (continued)

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TACAGTCTCGTATTGGCGAGGGCGTTGTTAATGATGCTACCTCAATCGTTGTGTTCAA
 CGCGCTCAAAAACCTCGACATCACCCACATCAATGCCGAGGTGGTATTTCACCTCCTTG
 GCAACTTCTTGTACCTCTTCTATTGAGCACCGTGCTCGCGTGGCGACCGGTCTCATC
 TCCGCGCTGGTCAATTAGAAGATCTACTTCGGACGCCACTCGACTGATCGGGAACTGGC
 CTTAATGATGCTGATGGCATACTAAGCTACATGCTGGCAGAGCTTTTGCCCTGTCG
 GAATCCTCACTGTGTTTTCGGCTGATCGTATGAGCCATTATACTGTTGGCACAACGTC
 ACGGAGCTAGCCGAATTACTACAGAACGCCCTTGCCACCCCTGCTTCCCTGGCTGA
 GACTTTCATATTTCTACGTTGGATGGATGGCTAGACATTGAGAAGTGGCGGTCCG
 TTTGGGACACCCCGGGCAATCGATAGCCATATCCTCCATACTCATGGGGTTGTCATG
 CTTGGACCGCGGCTTCTGTTCCGCTAAGTTCTTGTCAAATCTGGCGAAGAAGAA
 TGAGCCAAAAGATCTCTGGAAAGCAGCAAGTTGTGATCTGGAGCGGGTTTGTGA
 GGGGTGCTGTCTCTATGGCCCTAGCTTATAACAAGTTACAGAGGCCCATACGGAG
 GTGAGAGGTAACGAAATCATGATTACTAGCACCATTACCGCTGCTATTCACAGT
 GGTGTCGGTCTCTGACTAAACCAACTGATCAGGCTCCTTATGCCCAACGCCATCTGA
 CCATGCTCTCCGACCGCACCCGAAGTCATTGCACTCACCTTGTGACATCCCAG
 CTGGAAAGCTCCATCGAAGAGCCGACGCAGATAACCACGCCCTACAAATATTGGCGA
 ATTACAACATATGACGAGAACGGTGCATAAGTTACTGGAGAAAATTGATGACAAATTCA
 TGCGCCCAATGTTGGCGCAGGGGCTTCGTACCCCTGCTCCGGTACCAACGGAG
 AGGAATCCCCACGATTTGAGCCCTAA

SEQ ID NO 12: Zea mays Na⁺/H⁺ antiporter NHX2 protein

MGLGVDAETVRLGVLSSTSNDHASVVSNNFFVALLCACIVLGHLLNEENRMVNESITALLV
 GLGTGTVILMISRGVSIHVILVFSDELFFIYLPPPIIFNAGFQVKKQFFRNFITIILFG
 AIGTLISFVIISLGMGLPKKLDVGPYLELGDYLAIGAIFSAFDSVCTLQVLNQDETPLL
 YSLVFGEGVVNDATSIVVFNALQNFDITHINAEVVVFHLLGNFLYLFLLSTVLGVATGLI
 SALVIKKIYFGRHSTDREVALMMLMAYLSYMELFALSGLITVFFGCTVMSHYTWHN
 TESSRITTKHAFATLFLAETFIFLYVGMDALDIEKWRVSVDTPGKSIAISSILMGLVM
 LGRAAFVFPPLSFLSNLAKNEHKISWKQQVVIWWSGLMRGAWSMALAYNKTRAGHTE
 VRGNEIMITSTITVFLSTVVFGLLTKEPLIRLLMPHRHILMLSDDSTPKSLHSPLLTSQ
 LGSSIEEPTQIPRPTNIRGEFTTMTRTVHRYWRKFDDKPFMRPMFGRGFVFPVPGSPT
 RNPHDLSKP

SEQ ID NO 13: Zea mays Na⁺/H⁺ antiporter NHX3

ATGTCAATAGGACTGACGGCCGAGACCGTGACTAACAGCTAGCCAGCCCGAGCACCC
 CCAAGTCGTCCTAATTCTGTGTTCACTGGCTCCTCTGCTGTGCTGGTGTAGGGCC
 ACCTCCTTGAGGAGAACAGATGGTCAATGAATCAAATAACAGCCATTCTGTGGCGCT
 GCGACTGGGACCGTCATCCCTGCTCATCTCGAAAGGAAAATCGAGCCACATACTTGTGTT
 CGATGAGGAATTGTTTCTATCTACTGGCGCAATTATTTCAATGCCGGGTTTC
 AAGTAAGAAAAGCAATTCTCCGCAACTTATAACGATTATTTCTTGGTGTCAAGAAACT
 GGGACTCTGATTCTCTTGTAATAATCTCTCTTGGTGTATGGGGTTGTCAAGAAACT
 TGATGTTGGTCCACTCGAGCTGGGACTATCTGCAATTGGTGTATTTCTCGGCAA
 CAGATTCTGTTGACCTTACAGGTGCTTAACAGGATGAAACACCCCTACTCTACAGT

FIGURE 4 (continued)

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CTGGTATTGGTGAAGGGGTCGTGAACGACGCTACAAGTGTGTGCTGTTAATGCAGT
 GCAAAAGATCGACTTCGAACACCTTACCGGAGAGGTGGCGCTCCAGGTGTTCGGAACCT
 TCCCTATCTGTCTCAACCTAACGGCTCTGGCATAGCCACTGGGCTCATTACCGCC
 TTGTCCTCAAGACACTCTACTTCCGGCCGTATAGTACTACCCGTAGGTGGCATTAT
 GGTCCTGATGGCCTACTTGTCTTCATGCTTGAGTTGTTCACTCAGTGGTATCA
 TTACTGTTTCTGCGCGTCTCATGCTCCATGTTACCTGGCACAAATGTTACTGAG
 TCGTCCAGAATTACCTCTCGCCATGTCGCTATGCTAAGCTTCATTGCGGAAACGTT
 TTTGTTCTGTACGTGGGACGGACGCGCTTGACTTCACAAAGTGGAAAGACGTCTCGT
 TATCCCTGGAAAGTCCCTAGGGTATCCAGCGTGCCTGGGTTGGTCTAGTCGGT
 CGGGCGGCAATTCGTTTCCCTCTGAGCAACCTTAGTAAGAAACACCCCTGG
 GGAAAAAATCACGATCAGGCGCAGGTTGTAATTGGTGGGCAAGGACTTATGAGGGGG
 CCGTCAGCATCGCTTGGGTTCAACAAATTACAAGGGCGGTACACTCAGGTAAGA
 GGAAACGCAATCATGATCACTAGCACCATCATGTTGCTTCTACAGTCGTTT
 CGGCCTCCCTCACCAAACCGTTAATCACCTCTCATACCCCATCGCAATGCAACCTCA
 TGTTGCTGAGGACTCCAGCCCTAACGTCACAGCCACTTTAACCTCCCAACTG
 ATAAGCTCAATCGAGGAGGCCAACATCCCGGCCGAAATAACGGGGTGAGTT
 CATGACCATGACCGGAACCGTCATCGCTATTGGCGCAAGTTGATGACAAGTTCATGA
 GGCCTATTCGGAGGCAGGGTTTGTCCCGTTGTCCAGGTCGCTACCGAAAGA
 AGCTCACCCGATCTATCCAAGGCATGA

SEQ ID NO 14: Zea mays Na⁺/H⁺ antiporter NHX3 protein

MSIGLTAETVTNKLASAEEHPQVVPNSVFIALLCLCLVIGHLLEENRWVNESITAILVGA
 ATGTVILLISKGKSSHILVFDDEELFFTYLLEPIIFNAGFQVKKQFFRNFITIILFGAI
 GTLISFVLIISLGAMGLFKKLDVGPLEIDYIAIGAIFSAIDSVCTLQVLNQDETPLIYS
 LVFGEGVVDATSVVLFNNAVQKIDFEHLTGEVALQVFGNLYLFSTSTVGLIATGLITA
 FVLIKLYFGRHSTTRELAIMVIMAYLSFMIALFSLSGITITVFFCGVILMSHVTHNVT
 SSRTSRHFVAMLSFIAETFLFLYVGTDALDFTKWKTSSLSFGKSLGVSSVLLGLVLVG
 RAAFVFPFLSFLNSKHPGEKITIRQQVVIWWAGLMRGAVSIALAFNKFTRAGHTQVR
 GNAIMITSTIIVVLFSTVVFGLLTKPLINLLIPHRNATSMILSDDSSPKSLHSPLLTSQL
 ISSIEEPTQIIPRPTNIRGEFMTMTRTVHRYWRKFDDKFMRPMFGGRGFVFPVPGSPTER
 SSPDLSKA

SEQ ID NO 15: Zea mays Na⁺/H⁺ antiporter NHX4

ATGGGGTATCAGGTGTCGCCGCCAGCTGAAGCTGGCTCCCTCAGCTGACCAACGCAAG
 CGTGGTTATCATCACGCTCTTCGTGGCCCTCCTCTGCGCTTGATAGTGTGTTGGGCCATC
 TTCTTGAGAGAACGCGCTAAACGAATCAATTACAGCATTGATAATCGGGCTCGGA
 ACCGGGGTTGTGATTCTATTGATCAGGCCAGGTAAGAACAGCCGCTGCTTGTGTTCTC
 GGAGGACCTCTTCATCTATTGCCGCCATTATTTCATGCAATGCCGGTTCCAGG
 TGAAGAAGAACAGTTCTCCGAATTTCATGACAATCACACTATTGGGTGCTGTTGGC
 ACAATGATATCCCTCTTCAACATCTCTCGGCGCAATAGCGACATTCAAGCAGAATGAG
 CATTGGGACGCTAGATGTCGGGATTTCGCTATTGGAGCTATCTTTCTGCAACGG
 ATTCTGTGTCAGGCTCAGGTCAGGATGAGACGCCCTTCTGTACAGTCG

FIGURE 4 (continued)

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GTATTGGGGAGGGCGTAGTGAACGATGCCACAAGTGTGTACTCTCAACGCAGTTCA
 GAAGATCCAGTTACCCACATAAAATGCATGGACAGCTCTCCAGCTGATCGGTAACTTTC
 TTTACCTCTTCTCACGAGTACACTGCTCGGTATCGGGACGGCTTGATCACAGCGTT
 GTCCTGAAGAAGTGTATTCGGCAGGCACTCCACTACCCGGAGCTTGGATCATGAT
 CTTAATGGCCTACCTGTCATACATGCTTGGCAGTTGTTAGTCTGTCGGGCTCTCA
 CGGTCTTTCTGTGGCGTCAATGTCATGTCACATGGCATAATGTTACGGAGTCC
 AGCAGGACAACCAAGCCGTCACCTGTCGCGACGCTCTCGTATATCTGAGACTTTCAT
 ATTCTGTATCTGGGATGGACGGACTCGATTTGAGAAGTGGAAAGACCTCATCATTAA
 GCTTCGGTGGGACCCCTGGGAGTTAGTGGAGTACTCATGGGCTGGTATGCTAGGCAGA
 GCTGCTTCTCTCTCTCTCTCCAACTCGCCAAGAAACACAAAGTGA
 GAAAATTTAGGATGCAAGTTGATTTGGTGGGGCTTAATGCGCGCGCC
 TTTCCATGGCTTGGCGTTGAACAAATTCACTCGGAGCGCCACACCCAGCTACATGGC
 AATGCTATCATGATAACTCAACCATTAACCTGGTGTCTACGATGGCTTGG
 CATGATTACAAAGCCACTGATCAGGCTGTTTGCCTGGACATCCGAGAGAAT
 TATCGGAACCGTCGTCACCCAAAGAGCTTCCATAGTCCTCTTACCTCGAACAGGGA
 TCTGACCTGGAGTCGACAACCAATATAGTCGTCCTCTCACTTAGGGGCTCTCAC
 TAAACCAACTCACAGGTGCACTACTGCGGAAGTTGATGACGCACTTATGAGAC
 CGGTGTTGGGGGACGTGGTTCTGTGCCATTGTTCCGGCAGCCAAACGAGCGAAAT
 CCACCCGATCTGTCCTAAAGCCTGA

SEQ ID NO 16: Zea mays Na⁺/H⁺ antiporter NHX4 protein

MGYQVVAALKLASSADHASVVIITLFVALLCACIVLGHILLEENRWLNESITALIIGLG
 TGVVILLISRGKNSRLLFVSEDFLFFIYLPPPIIFNAGFQVKKQFFRNFMFTITLFGAVG
 TMISFFTISLGAIATFSRMSIGTLDVQDFLAIAGAIFSATDSVCTLQVLHQDETPFLYSL
 VFGEGVVNDATSVVLFNAVQKIQFTHINAWTALQIIGNFLYLFSTSTLIGIGTGLITAF
 VLKKLYFGRHSTTRELAIMLMAILSYMLAELFSLSGLLTVFFCGVLMSHVTWNVTES
 SRITTSRHVFATLSFISETFIFLYVGMDALDFEKWKTSLSFGGTGTVGSGVLMGLVMLGR
 AAFVFLPLSFLSNLAKKQSEKSIISFRMNVQVVIWAGLVRGAWSMALALNKFRSGHTQLHG
 NAIMITSTITVVLFSTMVFGMITKPLIRLLLIPASGHPRELSEPSSPKSFHSPLLTSQQG
 SDLESTTNIVRPSSLRGLLTKPHTVHYYWRKFDDALMRPVFGGRGFVFPVPGSPERN
 PPDLSKA

SEQ ID NO 17: Hordeum vulgare HvNHX1

AACGGAACCTTCTCCAGATACCCCGCCCGCGAAAAGAATAGAGGAGAATCCGACCT
 CCCCCCCCGCGCGCTGCGCATCTGCCCCCCCCTCTCTCCCTCCCTCGCTCCCCACCCC
 GGGTTTCCCGTGCCTTCTTCCCTCCACCCCGGCCCCGGCACGAAAGCAGCGGGGG
 AGACGGGGCCAGGAGGAGGAGCTGGCTGTTCTCGTCTCCCCGTGATTGATCTGATTG
 CGGATTAAGCGCCGCCCGCCGTTCCCGAGGGCTCCCTCCGGTTGATTGATCTGATTG
 AAAAAGCCCGCGTCTTCCCGAGGGCGCGCTCGCTCGCCGGAGCTAGCTGTTGATCTC
 CTTCGGCCGGCTCAAGGAAGAAGAGTAACGGGGGGATGGCGTTGAGATGGTGGGG
 CGCAGTTGGCGCGCTGAGCGACGCCCTGGCACCTCGGACCACGCCCTCGTGGTCTCC
 ATCAACCTCTCGTCGCGCTGCTCTGCGCCCTGACATCGTCCCTCGGCCACCTCTCGAGGA

FIGURE 4 (continued)

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GAACCGCTGGCTCAACGAGTCCATCACCGCCCTCATCATCGGGCTGTGCACCGGGCTGG
 TGATCCTGATGACCACCAAGGGGAAGAGCTCGCACGTGCTCGTCTTCAGCGAGGACCTC
 TTCTCATATACCTCCCTCCCATCATCTCAACGCCGTTCCAGGTGAAGAAGAA
 GCAGTTCTTCCGGAATTTCATGACAATCACATTATTGGCGCTGCGGACGATGATT
 CATTCTTACAATCTCTTGTGCCATTGCGATATTCAAGCAAGATGAAACATTGGACA
 CTGGATGTATCAGATTCTCCCAATTGGAGCCATCTTCCGCGACAGATTCTGTCTG
 CACTTTACAGGTTCTCAATCAGGACGAGACCCCTTCTGTACAGTCTAGTTTCCGGG
 AAGGTGTTGTGAACCGATGCCACATCAGTCGTGCTTTCAAGCGCTCCAGAACCTCGAT
 CCTAACCAAATCGATGCAATCGTCAATTCTGAAGTTCTGGAAACTTCGCTACTTATT
 CGTGTCAAGCACCTTCTTGGAGTATTCTGGATTGCTCAGTGCATACATAATCAAGA
 AGTTATACATAGGAAGGCATTCTACTGACCCCTGAGGTTGGCCTTATGATGCTCATGGCC
 TACCTCTCATATATGCTAGCTGCTTGTGATTGAGTGGCATCCTCACCGCTTCTT
 CTGTGGTATTGTGATGTCGCAATTACTTGCCTATAATGTCAGAGAGACTCAAGAGTTA
 CAACAAAGCATGCTTTGCAACCTTGTCTTCATTGCTGAGACACCTTCTCTTCTT
 GTTGGGATGGATGCACTGGATATCGAGAACCTGGAAATTGCTAGTGACAGCCCTGGCAA
 ATCCATCGGAATAAGCTCAATTGCTAGGATTAGTTCTGGTGGAGAGCTGCTTTTG
 TCTTCCCGCTTCTCATCTTCTCAACCTGACAAGAACAGACGGAGCTGAAAAAAATAAGC
 TGGAGGCAGCAAATCGTAATATGGTGGGCTGGGCTGATGAGAGGAGCTGTCGATCGC
 TCTTCCTTACAATAAGTTACAAGATCTGCCACACACAGCTACAGGCAACCGATAA
 TGATCACCAGCACCACTACTGTCGTTCTGTTAGCACTATGCTGTTGGCATATTGACA
 AAGCTCTGATCCGTTCTGCTGCCGCTGGAGCAATGGCAGACCCCTGGAGGCCCTC
 GTCACCGAAGTCCCTGCACTCTCTCTCCATCAAGCATGCTAGGCTGGACATGGAGG
 CGCCCTCCCTCATCGTCAGGCCCTCCAGCCTCCGGATCTCATCACCAAGCGACCCAC
 ACCATCCACTACTACTGCGCAAGTTGACGAGCGCTGATGCGTCTATGTCGGGG
 GCGCGGTTCTGCCCCCTACTCCCCCTGGATCACCCACCGATCAAACGTAATCGTGGCAT
 GAACCTTGTGGAGAAAGAGAAAAGCCATTACAGCTTCAGGAGACACTCTGAACTGTTG
 TAACTGGAAGAGAAGGAGGTGCTACAGCTTCCGAAGAAGCGAAGTCTCCATTACTATT
 ATAGTGGTTGGCTACTCGGAGGGCGAAGAAGGCGCCCTCTGACGATGGTTCAGATG
 AACGGTTGGTGGCCACCAACAGGAAGATGAAACCTAGTAAACGGTATGCGAGTACCA
 TCGCTTATCGGTTACGACAACCCCTGTCATTTTGTAGTATGATTAACAGCCAATTG
 TACCCATTGAGATGAGATCTCCCTCTGGCAGGCAGGCCATTCCCTGCTCCCTGGC
 TAGGAGTCTCTGGCTCCTGCATATCTACCACTGCTTATTAAATCTCCCTCCCCACTTC
 TAGTGGGATTGGCTAATGGTGTGCTTACCAAGTTGAGATGAGTGTGATGATGATCTT
 GTGGCCTGGCTACAAAGAACCTCATCTCAAGTTATCTATCTATTCTATATTGAA
 TTGAACTGAACCTTGTCTTGAACAC

SEQ ID NO 18: *Hordeum vulgare* HvNEK1 protein

MAFEVVAAQLARLSDALATSDHASVVSINLFVALLCACIVLGHLLNEENRWLNESITALI
 IGLCTGVVILMFTKGKSSHVLFSEDLFFIYLLPPIIFNAQFQVKKQFFRNFMITILF
 GAVGTMISFFTISIAIAIFSKMNIGTLVDSDFLAIGAIFSATDSVCTLQVLNQDETFF
 LYSLVFGEVGVNDATSVVLFNALQNFDPNQIDAIVILKFLGNFCYLFVSTFLGVFSCL
 LSAYI1KKLYTGRHSTDREVALMILMAYLSYMLAELLDLSGILTVFFCGIVMSHYTWHN

FIGURE 4 (continued)

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VTESSRVTTKHAFAFLSFLAETFLFLYVGMDALIEKWKFASDSPGKSIGISSILLGLV
 LVGRAAFVFPPLSFLSNLTKKTELEKISWRQQIVIWWAGLMRGAWSIALAYNKFRSGHT
 QLHGNAIMITSTTVLFSTMLFGILTCKPLIRFLLPASSNGDPSEPPSPKSLHSPLLTS
 MLGSDMEAPLPIVRPSSLRMLITKPTHTIHYWRKFDDALMRPMFGRGPVYSPGSPT
 DPNVIVA

SEQ ID NO 19: *Triticum aestivum* NHX2

ATGGGGTACCAAGTGGTGGCGCCGAGCTGGCGGGCTGAGCGGCCGCTGGCACCTC
 GGACCCAGCCTCCGTGGCTCCATCACCCCTCTCGTCGCGCTGCTCTGCCCTGCATCG
 TCCCTGGCCACCTCGCAGGAGAACCGCTGCGCTCAACGAGTCCATCACCGCCCTCATC
 ATCGGGCTGTGACCGCGTGTTGATCCTGATGACCAACCAAGGGAAAGAGCTCGCACCT
 GCTCGTCTTCAGCGAGGACCTCTTCATCTACCTCTGCCATCATCTCAACG
 CCGGTTTCAAGTGAAAGAAGCAGTTCTCCGAATTTCATGGCAATCACACTATT
 GGTGCCGTTGGGACATGATGCTGTTTCAAAATATCTCTTGCTGCCATTGCGATATT
 CAGCAGGATGAACATTGGGACACTGGGATGATCAGATTCTTGCAATTGGAGCTATCT
 TTTCCCGGACAGATTCTGTCCTGCACTCTACAGGTTCTCAATCAGGACGAGACGCCCTT
 TTGTACAGTCTAGTGTGTTGGGAAAGGTGTTGTAACGATGCCATCGGTGCTTT
 CAACCGCGTCCAGAACCTTGATCTAACAGATCGACGCGATGTCATTCAAGTCT
 TGGGAACCTCTGCTACTTATTCGTTCAAGCACCTCCCTTGGACTGTTACTGGATTG
 CTTAGTGATGATCAGTCATCAAGAAGTTAACATAGGAAGGCAATTCTACTGACCGTGAGGT
 CGCACTGTGATGTCATGGCTTACCTCTCATATATGCTAGCTGAGCTGCTAGATTG
 GTGGTATCCTCACTGTAATTCTCTGTTGATGTTGATGTCACATTACACTGGCACAA
 GTGACAGAGAGCTCAAGAGTTAACAAAGCATGCAATTGCAACCTTGCTCTCATCGC
 TGAGACTTTCTCTCTTATGTTGGGATGATGCACTGATATTGAGAAGTGGAAAT
 TTGCTAGTGACAGCCCCGGAAATCCATTGGAAATAGCTCAATTGGCTCGGGTTGGTT
 CTGGTTGGAAGAGCTGTTCTGCTTCTCCGCTCTCGTTTATCCAACCTGACAAAGAA
 GACGGAGCTGAAAAAAATAAGCTGGAGGCGAAATCGTAATATGGTGGCTGGCTG
 TGAGAGGAGCTGTGCGATCGCTTCAACATAAGTTAACAGATCTGGTCACACA
 CAGCTGCAAGGCAACCGCGATAATGATCACCGCACCATCTGCACTGTTCTGTTAGCAC
 TATGTTGTTGGCATTTGACAAGCCTCTGATCCGGTTCTACTGCCCGCTGAGCA
 ATGGCGCCGCTCAGATCCCGCTCACCGAAGTCCCTGCACTCTCCTCTCCTCACAGC
 CAGCTAGCTCGGACCTGGAGGCGCTCTCCCATCGTGAGGCCCTCCAGCCTCGGGAT
 GCTCATCACCAAGGCCACCCACCATCTCCTACTACTGGCCAAGTTGACGACGCGC
 TGATGCCCGGATGTTGCAAGGGCGGGTTGCGCTTGTGCCCCACTCCCCAGGATCACCCACC
 GATCCGAACGTTACTCGTGGAAATGAAACGTCGCGAAGAAGCACGGAGAAGCCATTACAGC
 TTGAGAGGACACTCTGAACTGTAACAGGAAGGGAGGAAGTGTACAGCTTACAGAA
 CGCGAAGTCTCGGTAATTTAGCGTTGCGCAGACTCGGAAGGCTGAGAAGGGCG
 CCTCCGATGATGGTTGAGTGAACGGTTGGTTGCGGACCGGACAGGAAGATGAACCCCTA
 GTAACGGTGTGCGAGTATCATCGCTTATCGGTTACGACAAAGCCCTGTAAGTT
 TGATGAGATTAACAAGCCAATTGATCTATGAGATCTCGGTTGGCAGGAGGCGTC
 TGACCTCTGCACTGCGACGACCGCGCGTGGCCAAGGCCGGTGCAGGGCGTGTAC
 GCGCCGTTCCCGCCGGGTGCATGTTCCACAGCGAGGGCGGCTCAAGAGCTTCGAGCA
 CCCCATGAACCGCTTAAGCGCTCCCCAGGGTGGACAGCGAGGGCGTATGCGGGCG

FIGURE 4 (continued)

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CCAACTTCAGGTCGACGCCCTCACCAAGATCAACTCCATGCCCGCGTCGGCAGCGCC
 ACCAACTGGGCCGCCCTGGGACGACGCCGCATCTGATCCTCGCCGGCCGGCGTT
 GCTCTCCGTCGTGCCCTCGGGCTTGGGCTTATTGATTTACTTGTCTTCTTCC
 TTGGCAATGTACATTCTGATCTGATCTGAGGCCGTGTGGGGCTGGCCGCTG
 GCACGTACGGCTGTTGCTACGATGGAGGAATAAGACTTGTCCAGTCCAAAAAA
 AAA

SEQ ID NO 20: *Triticum aestivum* NHX2 protein

MGYQVVAALRSLGALGTSDFASVVSITLFLVALLCACIVLGHLLNEENRWLNESITALI
 IGLCTGVVILMTTKGSHSHVLFSEDLFFIYLLPPIIFNAGFQVKKQFFRNFMAITLF
 GAVGTMMSFFTISLAIAIFSRMNIGTLDVSDFLAIGAISATDSVCTLQVLNQDETPF
 LYSLVFGEGVVNDATSVLFNALQNFDPNQIDAIVILKFLGNFCYLFVSSFLGVFTGL
 LSAVVIKKLYIGRHSTDREVALVMLMAYLSYMLAELLDLSGILTVFFCGIVMSHYTWHN
 VTESSRVTTHAFATLISIATEFLFLVYGMALDIEKWKFASDSPGKSIGISSILLGLV
 LVGRAAFVFPFLSFLSFLNKTELEKISWRQQIVIWWAGLMRGAWSIALAYNKFRSGHT
 QLHNAIMITSTITVVLFSTMFLFGILTKPLIRFLLPASSNGAASDPASPKSLHSPLLTS
 QLGSDLEAPLPIVRPSSLRMLITKPTHTIHYWRKFDDALMRPMFGRGFVYSPGSPT
 DPNVLVE

SEQ ID NO 21: *Oryza sativa* NHX2

GGTGGCCATCTCGCTTGAATCTGAGGGTGAGGCTGAGGAGGATCCACTGAGGTGGCGC
 GGTGGAGATGGGGCTGGGATTTGGGAGCTCTCGTTCTCAAATCCGGCGGGCTTGGTGT
 CGGACTACGACTCGATCGCCGATCAACATCTTCTGGCTGCTGCTGAGCTGCATT
 GTGATCGGGCACCTCTGGAAAGGGAAACGGGGTGGGCTAATGAATCCATCACCGCGCTTGT
 CATGGGGCTGATCACTGGAGGTGATTTCTGCTGCTGAGTGGGGAAACTCGCACCA
 TTCTTGTGTTCAAGTGGACCTCTTCTTCAATTATTTGCTTCCACCGATCATCTTAAAT
 GCTGGTTCAAGTAAAGAAAAACAAATTCTCCGCAATTATGACAATTATTTTATT
 TGGTGTGTTGGGACATTGATATCTTGTGATAATCTCTGAGCTGCACTGACATTGT
 TCAAAAAACTTGATCTTGGTCACTCCAGCTGGGACTATCTTGCAATTGGGGCTATC
 TTCTCAGCAACAGATTCTGTTGCACTTACAGGTGCTTAACCAAGACAAACACCCCT
 ACTCTATAGTCTGGTTTTGGTAAGGGGTTGTCATGATGCTACATCTGCTGCTCT
 TTAATGCAATTGAAGACATTGATAATTGCTAATTGCTAATTGCTTACTAGCGTTC
 ATAGGAAATTCTCTACCTATTCTCACCAAGTACCCCTTGGAGTAGTTGCTGGGTT
 GCTTAGTGCCTATTTATTAAAGAAACTATGTTTGGCAGACACTCAACTGACAGAGAAG
 TTGCTATCATGATACTCATGGCTACCTTCATATATGCTGCTGATGCTGCTAGATCTG
 AGTGGCATTCTCACTGTGTTCTCTGGAATAGTAATGTCACATTACACTTGGCATAA
 TGTGACAGAAAGCTGATTACTACCAAGCACACTTTGCTACTTTATCTTCATTG
 CTGAAATTCTTCTATTCTCATGTTGGGATGGACTGGACATTGAAAAATGGA
 TTAGCTAGCAGCAGTCCTAAAAAACCAATTGCTTAAAGTGCACACTATATTGGGCTTGGT
 TATGGTTGGAAAGACAGCATTGTTATTCCCTTGTCTTCTTATCCAATCTAAGTAAA
 AAGAGACACGCCAAAGATCTCCTTCAAGCAGCAAGTAATCATATGGTGGCAGGTCTC
 ATGAGAGGAGCAGTCAATGCACTTGCCTATCACAGTCAACCGCATCTGGTCATAC

FIGURE 4 (continued)

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TGAATTGCGAATCAATGCTATCATGATCACCAAGCACAGTCATTGTTGTTCTGTTCAAGCA
 CAATGGTTTTGGTTTTTACCAAGCCTCTCCTCAATCTCCTCATCCCACCAAGGCCT
 GACATAGCAGCTGATCTCAAGCCAGTCATAGACCCACTCTTGGAAAGCCTGCT
 GGGGTCTGACTTCGATGTAGGCCAGCCCTCCCTCAGAACACCTTCAGCTCTTCTCA
 CCAITCAAGACTCGCTCCGTTCATCGCGTGTGGCGCAAGTTGATGATAGATTCA
 CCGATGTTGCGGGGGCGAGGCTTCGTTCCCTTCGTCGCTGTTCGCCAGTGGAGCGGAG
 CATCCATGGATCTCACTGGCACTGTGACTGAGGCTGAACATAGCTGAGTTGAGGTT
 CAGAAGGTGCAAGCA

SEQ ID NO 22: *Oryza sativa* NHX2 protein

MGLDLGALVLKSGGLLVSDYDSIVAINIFVALLCSCIVIGHILLEGNRWVNESITALVMG
 LITGGVILLVSGGKNSHILVFSEDLFFIYLLPPIIFNAGFQVKKQFFRNFMIIILFGA
 VGTLLISVIIISLGAMTLFKKLDVGPLQLGDYLAIGAIFSATDSVCTLQVLNQDETPLLY
 SLVFGSGVNDATSVVLFNAIEDIDIANFDSLVLLAFIGNFLYLFFFTSTLLGVVAGLLS
 AYIIKKLICFARHSTDREVAIMILMAYLSYMLSMLLDLSGILTVFFSGIVMSHTWHNVT
 ESSRITTKHTFATLSFIAEIFLFLYVGMDALIEKWKLASSPKKPIALSATILGLVMV
 GRAAVFPLSFLSNLSKKETRPKISFKQQVIIWWAGLMRGAWSIALAYHIFTASGHTEL
 RINAIMITSTVIVVLSTMVFGGFTKPLLNLIPPRPDIAADLSSQSIIIDPLLGSLLGS
 DFDVGQPSPQNNLQLLTLIQTRSVRVWRKFDDRFMRPMFGRGFVFPVPGSPVERSIH
 GSQIQLGTVTEAEHS

SEQ ID NO 23: *Saccharomyces cerevisiae*

ATGCTATCCAAGGTATTGCTGAATATAGCTTCAAGGTGCTTTAACCCACGCCAAGAG
 AGCAGTTGATCCGTACCGATGATGATGAACTTCTACCTTCCCCGGATCTCCGGGTAGCG
 ATGACCCCTATTGCAAGGTGATCTGATGAGACTTAAACCCCTGTTACAGAAGAAATGTT
 CTCTTCACTGGGCATTGTTCAATTATGTTGCTCTATTGATCTCTGCATTGTGGTCTAGTT
 CTATTAACTCAGAACACGAAATTAGGGCAGTGCACTGAAACTGTGCTTTCTATTTTTATG
 GTATGTTATTGGCTGATAATAAGGATGTCACCCCGGGCATTATAATTCAGATAACGGTT
 ACTTTAATTCACTCTACTTTTTAATGTTCTATTGCCCAATTATTAAATAGTGG
 GTACGAGTTGAATCAAGTGAACCTTTCAATAATATGTTATCTATCTTAAATTTCGCCA
 TACCGGGCACCTCATTCATGTTGCTGTTATTGGAATCATTGTTATCTGGACCTTT
 TTAGGACTAGAGAGATTGACATTTCATTGCAAGATGCAATGTCGTGTTGCTACATT
 ATCTGCTACCGACCCCTTACAATTTCATTGCAATGGTATAAAGTGGATCCTA
 AGCTATATACCATCATTTGGAGAACACTGTTAAATGATGCCATCTATTGTTATG
 TTGAAACACTGTCAAAATTTCATGGTCAACCTGCAACATTTCGTCGGTTTIGAAGG
 GGCAGGGCCTCTTTGATGACTTTCTCCGTTGTTGATAGGCGTTCTTATAGGAA
 TTCTGTTGCTCTCTGTTGAAACACACTCACATAAGGCCTATCCTCAAATTGAGAGT
 TGTTGATCTGTTGTTGCTTATGATCTTCTTCTCAACGGTTGCCATATGTC
 CGGTATCGTCTCCTGTTATTGCGGAATTACTTAAACATTACCCCTATTATAACA
 TGTCAAGAAGATCACAGATCACCAATTAGTATATTCCAACTATTGGCAAGATTATCA
 GAGAATTTCATCTTATCTATCTAGGTTAGAACTTTTACTGAAGTAGAAACTAGTCTA
 TAAGCCACTGCTAATTATTGTGGCAGCTATTCTATATGTTGCTCGTTGGTGTGCTG

FIGURE 4 (continued)

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TGTTCCCATTGTCGCAATTGTTAACGGATATAGAGTAAAGACAATCAGATCTATG
 AGCGGCATAACCGGAGAAAATATTCTGTTCCCGATGAAATACCCCTACAATTACCAAT
 GATGACATTTCGGCAGGTTAACGTGGTGTGGTGTGCCCTGGCGTTGGGAATT
 AAGGTGAGTATAAGTTCACTTATTGGCAACGGCTTGTGTTGTTAAACAGTT
 ATCATTTTGCGGCACTACTGCAGGAATGTTAGAAGTTAAATATTAAAGACTGGTTG
 CATAAGTGAAGAAGATACTCTGATGACGAGTTGATATAGAGGCTCCAAGGGCGATAA
 ATTTATTGAACCGTAGTTCTATTGACAGATTGGGCCATATTCTGACAACAATTCT
 CCAGATAATTCAATTGACCAATTGGCGGTCAAGCAGTAACAAGAAATCTCCCACAAATACAT
 ATCCACAACTGGTGGTAATCTTTGGAGGGCTTAAATGAAACTGAGAAACTAGCCCTA
 ACCCGGCAAGGTCTTCTATGGATAAGCGTAATTGAGAGATAAACTGGGAACAATCTT
 AATTCCGACTACAATGGTTCAAAATTGATGACAGGTATTGAAGCCAGTATTCTT
 GGACAACGTTCTCATCTTACAAGATTGGCTACGCAATCACCTGCAGATTCTCTT
 CCCAAAACCACTAG

SEQ ID NO 24: *Saccharomyces cerevisiae* protein

MLSKVLLNIAFKVLLTTAKRAVDPDDDDELLPSPDLPGSDDPIAGDPDVDLNPVTEEMF
 SSWALFIMLLLSSALWSSYYLTQKRIARAVHETVLSIFYGMVIGLIIRMSPGHYIQLDTV
 TPNSSYFFNVLLPPIILNSGYELNQVNFFNNMILSILIFAIPTFISAVVIGIILYIWTF
 LGLESIDISFADAMSVGATLSATDPVTLISIFNAYKVDPKLYTIIIFGESLNDNAISIVM
 FETCQKFHGQPATFSSVPEGAGLFLIMTFSVSLLIGVILIGIIVALLLKHTHIRRYPQIES
 CLILIIAYESYFFSNGCHMSGIVSLLFCGITLKHYAYNMRSRSQITIKYIFQILLARLS
 ENFIFIYLGLELFTVELVYKPLIIIVRAISICVARWCAVFPQLSQFVNWIYRVKTIIRSM
 SGITGENISVPDEIPYNYQMMTFWAGLRLGAVGVALALGIQGYKFTLLATVLLVVVLTV
 IIIFGTTAGMLEVNLKTCGCISEEDTSDEFDIEAPRAINLLNGSSIQTDLGPYSDNNS
 PDISIDQFAVSSNKNLPLNNISTGGNTFGGLINETENTSPNPARSSMDKRNLRDKLGTIF
 NSDSQWFQNFDEQLKPVFLDNVSPSLQDSATQSPADFSSQNH

SEQ ID NO 25: *Magnaporthe grisea*

ATGACTTTCGATATGCCGCAACCTCTGGAGCTCACCAAGGGCGCTGCCAGGAACC
 CGAACCTGGAGGAGATGGCAGTTGGCCTTGCAGTGTGTTGCCGTCATGGACTCC
 AGGACCTCGTCAGTTGATTACCAAATCTTCTCAACCTCTCCCTCACCCATCATC
 CTCTCGTCCGGCTACGAGTTACATCAGGCCAACATTCTCCGGCACATCGGAACAATTCT
 CACGTTCGCATTGCTGGCACGTTCTGTCAGTAGTCATCGGTGTTATACTATGGC
 TTACACTCGCTACCCCTCGAGGGGCTCACCATGAACCTGGATCGATGCCATATCTGTT
 GGCACACTTTGTCAGTACCGATCTGTCACCATCATAGCCATCTCAACTCGTACAA
 GGTGGACCCGAAGCTGTATACCATCTTGGAGAGGCCATCCTCAATGACGCTGTGG
 CCATTGTCATCTCGAGTCGGCCAAAAGTCGCCAGGGGCTTGACCAAAGGCAGCGCT
 GCTGGCATCTCTACCTTCTTCTGGGTTCTGGATTCTGAGGGACTCTTCGGCAG
 CTGTTCACTCGGGCGCTTCTGTCATCTCACCGCGCTCATGCTCAAGTACACGTAC
 TCAGGAGGTTTCCCAAGCTGGAGAGCTGCTGTTGCTTATGCTTACGCCACGTAC
 TACTTTCCCAAGGCCATACACATGCTGGAATTGTCATGTTCTGCGGAATCAC
 ACTCAAACACTATGCATACTTCAACATGTCGCCAGAACTCAGCTTACGCCACAGTACA

FIGURE 4 (continued)

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TGTTCCAGGTCTCGACAACGTCTGAGAACTTTATCTTATTTACCTGGGTGTTCC
 CTCTTTACGGACAAGGATCTCCAGTTCAGCCCCCTCCCTCATCATTGTCACTGTCATGGC
 GGTGTGCCAGCTCGCTGGTTGCCGTATTCCCACCTCTCGTGGGCCATCAACTGGTTCC
 ACAAGTACCGGGCAGAAAAGACGTGGCATCAAGAACGTGCCAGGAGCTGCCGTACAAG
 TACCAAGGCATGCTGTTCTGGGCAGGGTTGCGTGGAGCGGTGGCTGCTGGCC
 GTTGTGACGGCCAAGGACCAAGGCGATTCAAGGCGACGGTTCTGGTTGTGGTGC
 TCACTGTATCATATTGGCACTACGGTCAACGTGCTGAAATCTCGAGATCCGC
 ACGGGACTGACGGATGAGATGAACTCTGACGATGAATTGACATCGAGGCAGTTGGGG
 CTACTACAAGCAGTCGGTAACCGAATAGGTATAGCCCCCGGGCGCATGGTGTG
 TGCCCCCTGGACACAGTCAGGTGGAGACGTGACAGTAATGGGCCGTGGTGGAAAGA
 GACGGCAGCGGCTGGAGCTGGACATAGATCTCCCTTGATGCGGCAAGGCTGGCAG
 TCTCGTCTGACAGGGTCAACACCGAAGAGCGGAAAGACTGGACCTCTGGCAACC
 CGGGCGGCTCGACAGACTGGATGACTTTGGAGCGACATTGACACGTCGGACCTGCCG
 CCACCAAGCCCCCTAGGAGACGATCCAGCCAACTGCCCTACGGGCGACAGAGGCAGC
 TGGTTTGGCCAGCGGGGAGCAGGACAAGGTGCAACACAGAGACGGGTGGCTGTCCG
 CCACGGCCGCGATCCGGCAGCTTCAAGCAGGACCCAACAGCCCTGTCAGGCAG
 CTGGACAGGACTACATCAAACCGAAGCTACTGCTCGATGGCGGTGCCCCCGTGGAA
 CGGTGGTGGCGCTGGCGATCGAGTTAG

SEQ ID NO 26: *Magnaporthe grisea* protein

MTFDIAGNLLELTRRAAEEPEPGGMAGVGLALRVFAVDGLQDLVSDYQIFFNLLPPII
 LSSGYELHQANFFRHIGTILTFAFAGTFLSAVIVGIVLWLYTRVPLEGLTMNWIDAISV
 GATLSATDPVTTIAIFNSYKVDPKLTTIIFGEAIIINDAVAIVIFESAQSKARGLTKGSA
 AGISTFFFWGFWIFLDRFFGSLFIGALLGILTLMLKTYTLRRFPKLESCLIVLIAYATY
 YFSQALEMSGIVSLLFCGICITLKHAYAFNMSRRTQLITKMFQVLAQLSENFIFIYLGVS
 LPTDKDLQFQPLLIIVTVMAVCARWVAVFPLSWAINWFHKYRAERRGIKNVPEELPYK
 YQGMLFWAGLRLGAVGVALAALLTAKDHRAFKATVLVVVLTVIIFGGTTVNVLEILEIR
 TGVTEIDSDDEFDIEAVGGYYKRSRSGNGIGYSPAGRNGVVPDTRPGRRRDSNGAVGGR
 DASGWSSGHRSPSLAARPGLVRTGSTREEAERLDLILGNFGGSTDSDRGSDIDTSDFP
 PPAFRRSSPMPPTCDDEEAGLPAGGSRTRSNTETGGLSATAAIRQLFSTEDPTALFRQ
 LDEDYIKPKLLLDDGGAGRGNGGGAGGSS

SEQ ID NO 27: Prolamine promoter

CTTCTACATCGGCTTAGGTGAGCAACACGACTTTATTATTATTATTATTATTATTATT
 ATTATTTTACAAAAATATAAAATAGATCAGTCCCTCACCAAGTAGACAAGTTGGTG
 AGTTATTGTAAGCTTACAAAGCTAATTAAAGTTATTCGATTAACCTATTTCATAT
 TACAAACAAGAGTGTCAATGGAAACAATGAAAACCATATGACATACTATAATTGGTTT
 TATTATTGAAATTATAATTCAAAAGAGAATAAAATCCACATAGCCGTAAGTTCTACAT
 GTGGTGCAATTACAAAATATAATAGCTTACAAACATGACAAGCTTACATTGAAAAT
 TGCACCTTATCACATTGACACATAAAAGTGAGTGATGAGTCATAATTATTGTTCTT
 GCTACCCCATCATGTATATGATAGCCACAAAGTTACCTTGATGATGATCAAAGAAC
 ATTTTAGGTGCACCTAACAGAAATCCAAATAATGACTCACCTAGATCATAATAGA

FIGURE 4 (continued)

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GCATCAAGTAAACTAACACTCTAAAGCAACCGATGGGAAAGCATCTATAAAATAGACAA
GCACAATGAAAATCCTCATCATCCTCACCAAAATTCAAATATTAGTTGAAGCATAG
TAGTA

SEQ ID NO 28: Ubiquitin promoter without first intron

GATAATGAGCATTGCATGTCTAAGTTATAAAAAATTACCCACATTTTTTGTCAACAC
TTGTTGAAGTGCAGTTATCTATCTTATACATATATTAAACTTACTCTACGAATA
ATATAATCTATACTACTACAATAATATCAGTGTAGAGAAATCATATAATGAACAGT
TAGACATGGTCTAAAGGACAATTGAGTATTTGACAACACAGGACTCTACAGTTTATCTT
TTTGTGTGCATGGTTCTCCCTTTGGCAATAGCTTCACCTATATAACTTCA
TCCATTTATTAGTACATCCATTAGGGTTAGGCTTAATGGTTTATAGACTAAATT
TTTGTACATCTATTTATTCTATTAGCTCTAAATTAAAGAAAACATAAAACTCTAT
TTTGTCTTTTTATTAAATAATTAGATATAAAATAGAATAAAATAAGTGACTAAAAA
TTAACAAATACCCCTTAAGAAATTAAAAAAACTAAGGAAACATTTTCTGTTTCGAG
TAGATAATGCCAGCTGTTAAACGCCGTCGACGGACTCTAACGGACACCAACCGCGAAC
CAGCAGCGTCGCGTCGGGCCAACGCAAGCAGACGGCACGGCATCTCTGCGCTGCCCT
GGACCCCTCTCGAGAGTTCCGCTCCACCGTTGGACTTGCTCCGCTGTCGGCATCCAGAA
ATTGCGTGGCGAGGGCAGACGCTGAGCCGGCACGGCAGGGCGCTCCCTCCCTCTCA
CGGCACGGCAGCTACGGGGATTCTTCCCAACCGCTCTCGCTTTCCCTCCCTCGCC
CGCCGTAATAATAGACACCCCTCCACACCCCTTTTCCCAACCTCGTGTGTTCGGA
GCGCACACACACACAACCAGATCCCCAAATCCACCCGTCGGCACCTCCGCTTC

SEQ ID NO 29: prm3122 (sense, AttB1 site in italic)

*GGGGACAAGTTGTACA*AAAAAAAGCAGGCTTCACAATGGGATGGAGGTGG

**SEQ ID NO 30: prm3123 (reverse, complementary, AttB2 site
in italic)**

*GGGGACCACTTTGTACA*AGAAAGCTGGGTGCACTGTTCATCTTCCCTCC

FIGURE 4 (continued)

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